

Atty Docket No. JCLA8534

Serial No. 10/055,499

REMARKS

This is a full and timely response to the outstanding nonfinal Office Action mailed May 3, 2004. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

1. Present Status of the Application

Upon entry of the amendments in this response, claims 61-63, 70-81 and 83-89 remain pending in the present application. More specifically, claims 61, 70, 72-81 and 83-89 are directly amended; and claims 90-93 and 95-100 are canceled without prejudice, waiver, or disclaimer. These amendments are specifically described above. It is believed that the foregoing amendments add no new matter to the present application.

2. Response To Objections/Rejections

Applicants respectfully traverse the rejections for at least the reasons set forth below.

Response To Claim Rejections Under 35 U.S.C. Section 102

The amended claim 61 reads as:

61. A chip packaging method comprising:
providing an organic substrate;
providing a plurality of dies, wherein each die has an active surface, a backside that is opposite to the active surface, and a plurality of metal pads located on the active surface;
mounting the dies over the organic substrate, the backside of the dies facing the organic substrate;
forming a plurality of patterned lines over the active surface of the dies; and

Atty Docket No. JCLA8534

Serial No. 10/055,499

performing a singularizing process to form multiple chip package structures, each having a single die or a plurality of dies.

(emphasis added)

Saito et al. (US5,049,980) and Wachtler et al. (US6,274,391) fail to teach or suggest the step of “performing a singularizing process”, as required by claim 61. Eichelberger et al. (US6,396,148, called “Eic-148”) fails to teach or hint the step of providing an “organic” substrate, as required by claim 61. Therefore, The withdrawal of the rejection under 35 U.S.C. 102(b) or 102(e) is respectfully reconsidered for at least the reason that Saito, Wachtler and Eichelberger individually fail to disclose or suggest all of the features recited in claim 61.

Response To Claim Rejections Under 35 U.S.C. Section 103

The amended claim 61 reads as:

61. A chip packaging method comprising:

providing an organic substrate;

providing a plurality of dies, wherein each die has an active surface, a backside that is opposite to the active surface, and a plurality of metal pads located on the active surface;

mounting the dies over the organic substrate, the backside of the dies facing the organic substrate;

forming a plurality of patterned lines over the active surface of the dies; and

performing a singularizing process to form multiple chip package structures, each having a single die or a plurality of dies.

(emphasis added)

Saito et al. (US5,049,980) and Wachtler et al. (US6,274,391) fail to teach or suggest the step of “performing a singularizing process”, as required by claim 61. The metalization process for forming metal lines is performed for only one package. Therefore, the chip packaging

Atty Docket No. JCLA8534**Serial No. 10/055,499**

method based on Saito's and Wachtler's teachings is inefficient. The present invention provides the method that a singularizing process is performed after multiple dies and patterned lines are allocated over a substrate. When the singularizing process is finished, multiple packages are produced. Therefore, the process of the present invention is efficient.

According to the latest Office Action, Eic-148 teaches that the packing method includes a singularizing process. However, Eic-148 fails to teach or suggest that the substrate is organic. The present invention teaches that the substrate is organic. There is an advantage that some of organic material has a desirable flexible characteristic, so the substrate can be bent with a large degree. The advantage can not be anticipated by Eic-148 because Eic-148 fails to teach or hint the substrate can be organic. Therefore, applicants consider that there is no evidence that it is sufficient to establish obviousness that the separate elements of the invention existed in the prior art, absent some teaching or suggestion, in the prior art, to combine the elements.

For at least the foregoing reasons, Applicant respectfully submits that the independent claim 61 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims 62-63, 70-81 and 83-89 patently define over the prior art as well.

Atty Docket No. JCLA8534

Serial No. 10/055,499

CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 61-63, 70-81 and 83-89 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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